

[GREEN SMW]

Under Wikimedia Foundation, sponsored by Google.

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Proposal

Improve the performance for the Relational backend of SMW by identifying major bottlenecks.

- *Redesign the database in accordance to the new system of DataItems.*
- *Reduce DB writes made by SMW.*
- *Add caching features wherever necessary.*

Problems with old DB schema

- Many datatypes, less table structures.
- new datatypes introduced upon necessity. Eg Coordinates
- Retrieving DataItems from the SQL DB required complex computation, error prone code, bad design and compatibility handlers.

Too many DB writes

- Frequent, unnecessary writes to the database.
- All Semantic data deleted and written back on each page edit.
- “ But I didn’t change any Property-Value! “

High loading times for Special pages

- High load times for Special pages like Special:Properties
- Count takes $O(n)$ time, accesses all database tables, slow!
- No caching. Same work done again and again leading to loss of CPU unnecessarily.

To be continued..